

AMENDMENT TO THE CLAIMS

Please cancel claims 1-7, 9-14, and 22-26.

Please amend claim 18 to read as follows:

1-14. (Canceled)

15. (Previously Presented) A system for introducing payloads into earth orbit, comprising:

a reusable orbital vehicle capable of being placed in earth orbit, the orbital vehicle having an elongated shape with first and second ends with a rocket engine positioned proximate the orbital vehicle second end;

an aft skirt proximate the orbital vehicle second end, and

an attachment member rotatably mounted to an interior portion of the aft skirt.

16. (Previously Presented) The system of claim 15, further comprising a mounting bracket fixedly mounted to the interior portion of the aft skirt wherein the attachment member is moveably coupled to the mounting bracket.

17. (Previously Presented) The system of claim 16, further comprising a control system to control movement of the attachment member to move the attachment member and thereby position an external payload package outside the interior portion of the aft skirt.

18. (Currently Amended) The system of claim 14-15 wherein the attachment member comprises a base portion having first and second ends, the base portion first end being coupled to the interior portion of the aft skirt, an intermediate portion having first and second ends, the intermediate portion first end being coupled to the base portion second end, and a terminal portion having first and second ends, the terminal portion first end being coupled to the intermediate portion second end.

19. (Original) The system of claim 18, further comprising a mounting bracket fixedly mounted to the interior portion of the aft skirt wherein the base portion first end is rotatably coupled to the mounting bracket.

20. (Original) The system of claim 18 wherein the terminal portion first end is rotatably coupled to the intermediate portion second end.

21. (Original) The system of claim 18, further comprising a mounting member coupled to the terminal portion second end and configured to receive the second experimental package.

22-26 (Canceled)

27. (Previously Presented) A system for introducing payloads into earth orbit, comprising:

a reusable orbital vehicle capable of being placed in earth orbit, the orbital vehicle an elongated body portion with first and second ends with a rocket engine positioned proximate the second end of the orbital vehicle;

an aft skirt coupled to the body portion proximate the second end and extending circumferentially around the rocket engine; and

a rotatably mounted attachment member mounted to an interior portion of the aft skirt, the attachment member configured to receive an experiment.

28. (Canceled)

29. (Original) The system of claim 27 wherein the attachment member is moveably mounted to the interior portion of the aft skirt, the system further comprising a control system to control movement of the attachment member to move the attachment member and thereby position the experiment outside the interior portion of the aft skirt.

30. (Original) The system of claim 29 wherein the experiment is an experimental control surface.

31. (Original) The system of claim 30 wherein the control system provides steering control of the attachment member to thereby steer the experiment while positioned outside the interior portion of the aft skirt.

32. (Original) The system of claim 27 wherein the attachment member comprises a base portion having first and second ends, the base portion first end being coupled to the interior portion of the aft skirt, an intermediate portion having first and second ends, the intermediate portion first end being coupled to the base portion second end, and a terminal portion having first and second ends, the terminal portion first end being coupled to the intermediate portion second end.

33. (Original) The system of claim 32, further comprising a mounting bracket fixedly mounted to the interior portion of the aft skirt wherein the base portion first end is moveably coupled to the mounting bracket.

34. (Original) The system of claim 32 wherein the terminal portion first end is moveably coupled to the intermediate portion second end.

35. (Original) The system of claim 32, further comprising a mounting member coupled to the terminal portion second end and configured to receive the experiment.

36. (Original) The system of claim 27, further comprising a sensor associated with the experiment, the sensor generating sensor data and a data storage unit to receive and store the generated sensor data.